

Article

The Language Desert: The Condition of Literacy and Reading in Contemporary America

Michael Tracey

Department of Media Studies, College of Media, Communication and Information,
University of Colorado at Boulder, Colorado, 1511 University Avenue, Boulder, CO 80309, USA;
E-Mail: Michael.Tracey@Colorado.edu

Academic Editor: Albrecht Classen

Received: 14 August 2014 / Accepted: 11 December 2014 / Published: 14 January 2015

Abstract: This essay is an engagement with a series of propositions about literacy and reading in the United States: that large numbers of people struggle with what one might call narrative complexity; that they resolve such struggles by falling back onto narrative simplicities which, through a series of cultural preferences, congeal to produce much of the stuff of popular culture; that this condition and process is essentially what the varied critics—from left and right—of the culture of modernity were actually identifying, though from a largely normative, not empirical, standpoint; that what was being critiqued was essentially a condition formed by cognitive underdevelopment; and that we can actually explain this empirically by mining decades’ worth of research in reading and literacy studies, particularly in the context of childhood and social class. In short, this paper is an admittedly tentative step in an effort to build a bridge between two knowledge silos that have in part remained determinably apart—reading/literacy studies and cultural/critical theory. The essay also suggests that, in order to understand reading and literacy, it is important to begin to engage research in neuroscience, particularly that which suggests that the brain is actually not designed—in evolutionary terms—to read.

Keywords: literacy; reading; cognitive; democracy; Founders; culture

“In the beginning was the Word...”

The Bible, John, i. 1

“Too many people make the mistake of thinking that the language of *Look Back in Anger* was naturalistic, whatever that means. The language of ‘everyday life’ is almost incommunicable for the very good reason that it is restricted, inarticulate, dull and boring, and never more so than today when verbal fluency is regarded as suspect, if not downright elitist.”

English playwright, John Osborne, 1993

“Brains were not built to read.”

Neuroscientist Prof. Michael Gazzaniga, University of California, Berkeley

1. Introduction

In 2007, Doris Lessing was awarded the Nobel Prize for literature. Her Nobel lecture in accepting the award is a reflection on Africa, on her life there and the memories of subsequent and frequent returns. At one point she mentions a talk she gave “at a school in North London, a very good school”. She spoke to the students about education in Africa, of how there may be schools but oftentimes there are no books, no chalk to write on the board with, basically no resources. And yet, she is saying, there is a deep yearning there to learn and in particular to learn from books. After the talk she asked “the teachers how the library is, and if the pupils read. In this privileged school, I hear what I always hear when I go to such schools and even universities. ‘You know how it is.’ One of the teachers says. ‘A lot of the boys have never read at all, and the library is only half used.’” Lessing adds: “We are in a fragmenting culture...where it is common for young men and women, who have had years of education, to know nothing of the world, to have read nothing, knowing only some speciality or other, for instance computers...” she points to the Internet “which has seduced a whole generation with its inanities...” Then in her mind’s eye she goes back to Africa and describes a scene she witnessed:

“I would like you to imagine yourselves somewhere in Southern Africa, standing in an Indian store, in a poor area, in a time of bad drought. There is a line of people, mostly women, with every kind of container for water. This store gets a bowser of precious water every afternoon from the town, and here the people wait.

The Indian is standing with the heels of his hands pressed down on the counter, and he is watching a black woman, who is bending over a wadge of paper that looks as if it has been torn out of a book. She is reading *Anna Karenina*. She is reading slowly, mouthing the words. It looks a difficult book. This is a young woman with two little children clutching at her legs. She is pregnant...

This man is curious. He says to the young woman: ‘What are you reading?’ ‘It is about Russia,’ says the girl. ‘Do you know where Russia is?’ He hardly knows himself. The young woman looks straight at him, full of dignity, though her eyes are red from dust. ‘I was best in the class. My teacher said I was best.’ The young woman resumes her reading:

she wants to get to the end of the paragraph. Now she hands over to him a plastic water container, which he fills. The young woman and the children watch him closely so that he doesn't spill any. She is bending again over the book. She reads slowly but the paragraph fascinates her and she reads it again."

It is never explained why a page ripped out of a copy of Tolstoy's *Anna Karenina* is lying on the store counter in a small dust ridden African village. But Lessing ends with this: "That poor girl trudging through the dust, dreaming of an education for her children, do we think that we are better than she is—we, stuffed full of food, our cupboards full of clothes, stifling in our superfluities? I think it is that girl and the women who were talking about books and an education"—a reference here to her various travels through rural Africa—"when they had not eaten for three days, that may yet define us".

In Lessing's lecture are three key themes: that the yearn to learn through reading is, or should be, a vitally important human activity, that we are the lesser for it if we do not and that, as evidenced by the boys of privilege in the school, increasingly we do not. There is nothing new here. Socrates worried about the impact on our ability to use memory because of the development of writing. Then there is this: "This is not how things were done when we were at the schools..." a comment not by any contemporary concerned with the state of play in education, rather Pope Innocent IV writing to schools in Paris in the middle of the 13th century [1].

The fact that concerns about learning, intellectual development, cognitive growth, however one wishes to put it, are longstanding does not diminish the fact that they remain significant issues even today, perhaps especially today. As one leading educational researcher, David Olson, put it: "Our common assumptions, originating in the 18th century, can be summarized thus: Language makes us human, literacy makes us civilized" ([2], p. 109). Lying inside Lessing's and Olson's comments is a brew of normative judgments—what exactly is it to be "human", "civilized"?—and empirical claims—language and literacy can achieve those ends, begging the attendant question, how?

2. The Question of Language and Culture

If one looks at any assembly of information about basic facts about different countries one of the areas addressed is always literacy. The Central Intelligence Agency's World Fact Book published in April 2011 states that the United States has a literacy level for people aged fifteen and over of 99%. This leads to a vital, if fairly obvious, question: what do we actually mean by literacy, and the attendant question, if we poke away at the data, can we claim to be a literate society? How literate? That in turn becomes an important issue if one agrees with the philosopher and social anthropologist, Ernest Gellner, that literacy is the crucial step in the cognitive development of mankind [3]. Put another way, the suggestion is that we cannot be cognitively evolved if we are not literate, which again poses another question, what level of literacy? And that, just as with the attendant question of levels of reading, is an empirical issue both in terms of how much reading, and how much literacy and how do they aid cognition, intellectual growth?

A very basic premise here is, then, that language which seeks to go beyond the trivial and the mediocre, indeed which aspires to a certain profundity can only be achieved through a high level of literacy, with the obvious corollary that if, for whatever reasons of circumstance and life experience, one is denied the ability to use language, for example in seeking out complex information or following

dense argument or attending to serious news sources, in other words in tackling narrative complexities, then one is diminished. Having said that is not to deny that there are many realms of imagined and emotional experience that portend different kinds of truth, understanding and meaning and that are not language based. Van Gogh commented that he did not paint what he saw, but what he felt. And Keats spoke of “negative capability”, a condition “when a man is capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason”. Music and art can take us to places of feeling that are as vital and necessary and important as any rationally apprehended, language-based sense of truth. Indeed, there is a school of thought, as Antonio Damasio has observed that argues “that neurological research has shown that we are not primarily thinking beings who also feel, but essentially feeling beings who also think” ([4], p. 47). Having recognized the need to engage the nature of visual perception, and indeed in noting that at some point the humanities will need to equally engage the fact of the neurological basis of thought and language, and recognizing the profound experience that art of all kinds can deliver, it is not all that useful if we are to have significant discussions about the question of what constitutes a democratic, socially mature culture and society, or in having an informed and grounded debate about, say, war or the rights of the Lesbian, Gay, Bisexual, Transgendered community, or the need for social and economic justice, or health care or the nature of governance, or what should be the defining values and philosophies of a society, the moral structures by which it should be guided—even Mahler or Aaron Copeland or JayZ or Picasso or Constable would not be a great help there.

One can get at this issue of the place and importance of language by considering a commentary by the eminent English cultural critic, Richard Hoggart. Hoggart achieved fame with the publication in 1957 of his book, *The Uses of Literacy*, one of the founding texts of what would become known as cultural studies. In his later years he would argue, as he did in a lecture at the British Library in autumn 1998, that “literacy is not enough” [5]. He was arguing that there are different kinds of literacy, a hierarchy even, certainly to his way of thinking, the most important of which can round us out as citizens and evolved beings or, in their absence, leave us lesser than we might be. He argued that:

“...literacy is fundamental, the essential gateway, the starter tool; without it we cannot read at all. Yet even with it, after we have been passed as officially literate, we may be able to read in only the barest sense. We may understand the dictionary meanings of an approved number of words; we may be able to interpret what those words say when they are strung together in sentences and paragraphs, but only so long as the words are not very polysyllabic or abstract or heavy with imaginative meaning—such as the words in a well-presented guide to simple cookery, say, or to driving a car...”

He then states that we need to go beyond this basic literacy, to a kind of literacy which is “alert to the manifold deceptions—carried mainly in language—by which persuasion operates in an open society. The need is, above all, for critical literacy, a literacy which is critically aware, not easily taken in, able to ‘read’ tricks of tone, selectivities, false ad hominem cries and all the rest...Critical literacy means combining, with training in literacy, teaching about the difficulties, challenges and benefits of living in an open society which aims to be a democracy. It means blowing the gaff on all the rampant small and large corruptions, on the humbugging, smart-alec persuaders; it means knowing how to read

the small print on insurance policies and guarantees on major purchases... It means using a fine, logical truth-toothcomb on all political manifestos”.

Even that for him is still insufficient, too constrained and he continues: “The next step must be from critical literacy to a condition even more difficult...cultivated literacy...the ability to read other than functionally, which is after all only a simple matter. It means being more than critical in our reactions to what we see, hear and read, but being open, intellectually and imaginatively responsive...Critical literacy is valuable—indeed, as I have said, essential, especially in democracy—but is still not enough. It is in its nature reactive, responsive to a certain state of affairs, and hence defensive, even narky.”

A society, he suggests, “must give all its members the opportunity to open their minds to the best kinds of creativity, to the best works of the intellect and imagination. Through this a society may begin to mature. A society which does not recognize this imperative will be populated by well-fed morons, not by cultivated humans. Of course, if anyone settles for being a plump moron, one cannot forbid them; but they should have the opportunity to realize what they are missing” ([6], pp. 195–97).

It is important to note at the outset that Hoggart’s hierarchy of literacy—from a basic ability, to critical acuity, to the cultivated—inevitably presupposes an equivalent hierarchy of cognitive abilities, with the related question of how those abilities do or do not get put in place. Hoggart never phrased it in these terms since he simply took for granted that he was correct, and therefore need not go beyond the normative. If, however, there was a programmatic or prescriptive element to Hoggart’s commentary—and there manifestly was in that he wanted a culture defined by cultivated literacy—then he might well have asked another rather difficult question: how does that cognitive hierarchy come into being? He might then have asked a further question: is the manner in which the major (in economic terms) societies are evolving socio-economically, technologically and culturally likely to realize his heart’s desire? The question is difficult, not necessarily in any conceptual sense, though it does have its challenges, but rather that in a populist, market driven age, that sustains itself by feeding public appetites not as they might be but as they are, it is almost heretical.

This essay is very much focused on this idea of “cultivated”, if only because producing cultivated individuals and through them, collectively, a cultivated community was a foundational aspiration of this society, indeed of any would be free and democratic society, and for this literacy one takes to be the “starter tool”, the *sine qua non*.

Achieving a level of competency in literacy is important in one obvious sense, it provides one a point of entry into the economic order of a society, offering the chance to do well materially, for example in terms of earning power [7]. That is important and increasingly so in an ever more competitive, globalized world. However, that is not the primary concern here. What is central to the argument here is that literacy—high level literacy, cultivated literacy—provides for the opportunity to participate in the cultural, moral, ethical and philosophical systems that define a society, to engage narrative complexity and not fall back on simplistic, even simple minded narratives and through such participation strengthen them. In short, it provides the possibility of achieving our full potential, while recognizing that understanding just what that means remains a tad elusive, which does not mean that it is not vitally important. If there is any substance to this proposition then it has an obvious corollary, that the absence of such literacy is a barrier, not just to doing well in a material sense, but in being able to access those foundational systems of thought, and therefore of being culturally, intellectually, philosophically caste adrift.

The implication here is, one hopes, obvious: that without mature literacy—Hoggart’s cultivated literacy—that can go beyond the merely obvious and functional, the culture itself cannot mature, will be threadbare, shallow, impoverished, ignorant because it would not have the wherewithal to be anything else. If we bring this back to the case of the United States, one might reasonably argue that a mature society of active citizens was very much in the mind’s eye of the Founders who did not envisage a Republic peopled by a populous that in intellectual terms was seriously undernourished.

There is, however something here that while important needs to be treated with caution. This is the often implicit, sometimes explicit idea that when it comes to language, its usage, its place in our lives we have in fact devolved, or at least have not evolved, because of mass culture and the culture of the masses, and the failure of education—T.S. Eliot, F.R. Leavis, C. Wright Mills, Richard Hoggart and others of their ilk all placed huge importance on the role of education in addressing the problems with what they, in their various ways, saw as a mass society debauched by a shallow mass culture, a view which has within it the shibboleth of a time before when all was better. In fact, a characteristic of much of the commentary about the decline of reading, the lowering of literacy is often to be found in rather general, almost elegiac terms. Neil Postman famously bemoaned, in his 1985 book, “Amusing Ourselves to Death”, the decline of the literate culture of print and the triumph of the much shallower one of the visual culture of television which he clearly felt was making us collectively stupid [8]. In his book, *Technopoly: The Surrender of Culture to Technology*, he wrote: “On one hand, there is the world of the printed word with its emphasis on logic, sequences, history, exposition, objectivity, detachment and discipline. On the other, there is a world of television with its emphasis on imagery, narrative, presentness, simultaneity, intimacy, immediate gratification, and quick emotional response” ([9], p. 23). John Updike bewailed: “For who, in that unthinkable future/When I am dead, will read?/The printed page/Was just a half-millennium’s brief wonder...” [10].

The response to such critiques is usually that they are overdrawn, dismissive, cynical, condescending and, that greatest of sins, elitist seeing little merit in what is dismissively called not just mass culture but “low” culture with the obvious corollary that there is something that is “high” culture. This actually is not, certainly in any simplistic sense, what the critics cited here were concerned with, even if it is true that they looked at much contemporary popular culture and were less than enamored with what they saw as its tawdry luminosity. Their concern was with the idea of judgment of worth and merit and the importance of there being a broad ability within the populous as a whole to engage in such judgment, to recognize that some of the content of the culture, and therefore life, has depth and merit, and some does not.

There are those who would, and do, argue that such judgments are neither possible nor appropriate and who are all for giving people only what they want and all too willing to abandon other, larger more principled judgments that see human beings, citizens, as something other than statistics in skins. In this task these counter critics must sustain the pretense that all is well and cheery, and will never understand—or will pretend not to understand or care, one suspects for reasons of intellectual fashion—the comment made by of Hector, in Alan Bennett’s play *The History Boys*, when he suggests that in the presence of great literature (which one can expand to all great culture, whether in print, or on the screen at home, at the movie theater, in a recording) it is as if a hand has reached out and taken our own.

Why should this, the question of evolved language, or the absence thereof, be a matter for concern? It matters because it is quite obvious from the historical declarations as to the nature of this and other societies, from the articulations of its sense of self, that the ability to use language well, and therefore to use Reason well, constitutes its very DNA. The Founders of the United States as a constitutional republic and those of their ilk elsewhere assumed a procreative intimacy between language and Reason.

The historian David McCullough has spoken of how for John Adams the greatest gift bestowed by God was “the gift of an inquiring mind.” He quoted Adams pointing to the “wonderful provision that He has made for the gratification of our nobler powers of intelligence and reason. He has given us reason to find out the truth and the real design and true end of our existence...” [11].

Etched into the marble of the Jefferson Memorial in Washington are his own words: “I have sworn upon the altar of God, eternal hostility against every form of tyranny over the mind of man.” One of his biographers notes that “...certain basic tenets motivated his life and shaped his actions in whatever challenge he faced. Of these, none was stronger than his belief in ‘the sufficiency of reason for the care of human affairs.’ As a man of the Enlightenment who believed in the application of reason to society as well as to nature, Jefferson throughout his life pursued the use of reason as the means by which mankind could obtain a more perfect society...” ([12], p. ix).

These commentaries are offered as testimony to a basic proposition as to what is required of this society if it is to be regarded as a viable, purposeful democracy: and that proposition is that there is a key, necessary and inevitable relationship between the quality of language within a society and the quality of the society, and between the quality of language and the quality of evolved, rational thought guiding all our destinies to good and proper ends. This inevitably places a profound demand on the people, that they be active, conscious citizens continually practicing and reaffirming the challenges of citizenship. Those challenges, and the rewards which ensue, rest on the assumption that the fundamental intellectual framework, the language of democracy, is grasped and used by the public-as-citizen. This, however, presupposes a society sufficiently literate, articulate and engaged to rise to the challenge. In the only known commentary by one of the framers of the Constitution on the intent of the First Amendment, James Madison said: “...we mean nothing more than this, that the people have a right to express and communicate their sentiments and wishes” [13]. Madison took it as a given that “the people” had the reasoning and speech skills to exercise this right, an assumption that continues to guide the formal dialogue of American history. Language within any would be free, mature society is, or should be, a kind of Higgs-Boson of culture, providing “mass” to such concepts as democracy, citizenship, ethics, virtue, morals, intelligence, the essential building blocks. The question in play is this: to what extent can we still claim to celebrate Jefferson’s “pursuit of reason”, or Adams’ “gift of an inquiring mind”?

3. Language and Cognitive Development

A point which needs to be made here is that these varied articulations of the importance of language, literate language, do not just rest on normative musings. There is an extensive body of literature, in the area of cognitive psychology and reading studies on the profound relationship between literacy, reading and the development of the rational, informed, acute mind. Goody, in his influential book “The Domestication of the Savage Mind” comments: “The specific proposition is that writing,

and more especially alphabetic literacy, made it possible to scrutinize discourse in a different kind of way by giving oral communication a semi-permanent form; this scrutiny favored the increase in scope of critical activity, and hence rationality, skepticism, and logic...It increased the potentialities of criticism because writing laid out discourse before one's eyes in a different way; at the same time increased the potentiality for cumulative knowledge, especially knowledge of an abstract kind, because it changed the nature of communication beyond that of face-to-face contact as well as the system for the storage of information; in this way a wider range of 'thought' was made available to the reading public...(It) enabled man to stand back from his creation and examine it in a more abstract, generalized, and rational way" ([14], p. 37). The whole literature on the anthropological and historical dimensions of literacy echoes this understanding of the relationship between the literate mind and the thinking mind. Ong, for example, wrote: "Without writing, the literate mind would not, and could not, think as it does, not only when engaged in writing but normally even when it is composing its thoughts in oral form. More than any other single invention, writing has transformed human consciousness" ([15], p. 78).

Research from the reading studies literature has put much empirical flesh on the normative bone. For example, it is clear that children who do not 'hear' language, who are talked to less and read to less, and who themselves read little get locked into a downward spiral of poor performance and disaffection labeled "the Mathew Effect", from Mathew 13:12: "For whomsoever hath, to him shall be given, and he shall have abundance, but whomsoever hath not, from him shall be taken, even that which he hath" ([16], p. 10). The point is obvious: if culture is driven by the visual, if the child hears less language and reads fewer words, which is precisely how popular mass culture has evolved and is evolving, and if there continue to be class and ethnic biases in the language environment within which a child is raised then the downward spiral will only accelerate.

The evidence is clear. Betty Hart and Todd Risley studied, over a period of two and a half years, children in 42 families, from ages seven to nine months to three years. 13 of the families were professional, 23 working class and six on welfare. The basic question posed in their research was to find out what went on in these homes as children learned to talk. By the age of four, children of professional parents have, on average, heard 45 million adult words; children with parents on welfare had heard 13 million; by three, children of professional parents were using more sophisticated language than parents on welfare; at age three, the highest IQ of children talked to most reached 150 while the lowest IQ of children talked to least fell to 75, which remained stable when they were re-tested at age nine [17]. By the middle grades the least motivated readers might read 100,000 words a year, the average child 1,000,000 words, and the voracious reader 10,000,000 or even as many as 50,000,000. If these data are anywhere near the mark, there are staggering individual differences in the volume of language experience, and therefore opportunity to learn new words, and therefore to develop language skills. [18]. We also know from research that there are startling differences in, for example, the number of books in a home in relation to socio-economic standing, from no books among the most impoverished homes, to three in low and middle income homes, to as many as 2000 among the most affluent. ([19], p. 103). At one level this should come as no great surprise, but that it does not should not negate the fact that the research also suggests that this can have a devastating effect on vocabulary and world knowledge. Another way of putting this, and assuming a correlation between the

absence of books and the likely absence of a child being read to or spoken to in any developed way, is that there are a considerable number of households that are in effect language deserts.

Differences in word exposure among 10–11 year olds, with exposure to print the key variable, lead to concomitant differential levels of literacy and verbal intelligence [20]. Vocabulary growth requires exposure to what the literature refers to as “rare” words—those outside the vocabulary of 4th to 6th graders (9 to 12 year olds). Print provides these learning opportunities: children’s books contain 50% more rare words than adult prime-time television and the conversations of college students; popular magazines provide three times more opportunities for word-learning than television or adult conversations [21]. Lawrence Baines’ research on the difference between books and their movie adaptations—he studied “Of Mice and Men”, “To Kill a Mockingbird”, and “Wuthering Heights”—shows that what gets lost in translation is language. He concludes that film adaptations use fewer polysyllabic words; use less complex sentence structure; have less lexical diversity; and reduces the complexity of dialogue, plot, character and theme. He notes that numerous studies have “found that encountering new words in context is an essential method by which humans add to their vocabulary...” and adds that “a student who would have eschewed the book in favor of the film would likely not have added to his or her base of word knowledge”. Why, he asks, should that student care? Because, he argues, of the powerful relationship between vocabulary and intelligence. In similar vein, he argues that because of “the powerful relationship between thinking and language”, whether looked at from the standpoint of linguistics, developmental psychology, social theory, pedagogy, anthropology or philosophy, what is clear are “the deep links between thoughts and words.” He also points to the relationship between language and creativity. He cites Gardner’s 1993 book, *Creating Minds*, which looked at Freud, Einstein, Picasso, Stravinsky, T.S. Eliot, Martha Graham and Ghandi, and argued that whatever the differences in their creative activities “all possessed an impressive dexterity with language.” Baines concludes: “despite the body of evidence supporting the crucial role of language in the cognitive and social development of human beings, it seems as if everything about contemporary culture militates against an environment conducive to reading and reflection...if students only viewed (the three movies) and did not read them, they would not have been exposed to the more complex language and narrative of the books. From this, one may conjecture that a student who reads 50 books in a year will likely be exposed to a richer vocabulary than a student who views the 50 film adaptations...” ([22], p. 619). This is very much in lockstep with a comment by one of the world’s leading researchers in reading studies, Keith Stanovich, who has noted: “Only print provides opportunities for acquiring broad and deep knowledge of the world. Research indicates that reading has higher correlation with world and cultural knowledge than does television viewing” ([16], p. 307).

It is certainly clear from studies in neuroscience that there is immense significance in the phrase “use it or lose it”. This famous maxim, which can be applied to the question of reading, literacy and language, is rooted in the Hebbian proposition—suggested by the Canadian behavioral psychologist, Donald Hebb, in 1949—which is neatly summarized in the aphorism that neurons that fire together wire together, implying that the neuronal structure of the brain can be altered by experience [23]. Norman Doidge points out that this concept was actually first suggested by Freud in 1888: “Freud stated that when two neurons fire *simultaneously*, this firing facilitates their ongoing *association*. Freud emphasized that what linked neurons was their firing together *in time*, and he called this phenomenon the law of association by simultaneity” ([24], p. 223). In other words, the act of reading has

neurological consequences with the commonsensical corollary that the act of not reading does not. It is here where the facts of life circumstance—class, social location, the quality of the school experience, the character of family life, the distractions of other activities such as watching television, going to the movies, surfing the Internet and so on—meet the facts of our biological being. A parallel example might be to suggest that if we make a set of life-style choices—eating junk food, being the proverbial couch potato and not exercising—then these will quite likely have real life biological consequences, obesity, diabetes, illness, even death.

4. Literacy and Reading in Contemporary America

What then do we know about literacy and reading in America today—taking for granted their presumed importance? Put slightly differently, can we map onto Hoggart's hierarchy of literacy actual data to show what the reality is on the ground—and would Hoggart bemoan or applaud the evidence?

Most countries establish levels of literacy based on data from census or households that respond to a variation of the question, “Do you know how to read and write?” [25]. The literacy rate is determined by the number of people who answer yes. This is, one might argue, a less than useful data set. It has not gone much further than the test employed by David Cressy in what is regarded as the definitive study of literacy in Tudor and Stuart England. Cressy's test of literacy was the ability to sign one's name, to, for example, a will, to testimony in an ecclesiastical court, to public documents [26]. There have been numerous attempts to arrive at more sophisticated definitions of literacy, for example by UNESCO in 1958, 1978, 2005 and 2009 [27]. Other definitions exist [28], and all go beyond simply decoding and comprehending text to include a broad range of information-processing skills that adults use in accomplishing the range of tasks associated with work, home, and community contexts.

The definition of literacy accepted by the policy community in the United States is drawn from the National Adult Literacy Survey (NALS): using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential [29]. NALS defines five levels of literacy abilities. Briefly, Level 1 literacy tasks require readers to locate one piece of information in a text. Level 2 tasks require location of one or more pieces of information in a text that may require low-level inferences. Level 3 tasks direct readers to locate information that requires low-level inferences or that is located in different sentences or paragraphs. Level 4 tasks require readers to perform multiple-feature matching or to provide several responses where the requested information must be identified through text-based inferences. Level 5 tasks require location of information in dense text that contains a number of plausible distractors, high-level inferences or use of specialized knowledge.

The National Center for Educational Statistics published its report, *Adult Literacy in America: A First Look at the Findings of the National Adult Literacy Survey*, in April 2002. The survey tested adults for prose literacy (news stories, poems, fiction), document literacy (job applications, bus schedules, maps), and quantitative literacy (balancing a check book) for the five established levels. The Survey puts 40–44 million American adults (21%–23%) at the lowest literacy level, displaying difficulty in using certain reading, writing, and computational skills necessary for functioning in everyday life. Some had such limited skills that they could not even respond to the survey [7]. The NALS places 50 million adults at level 2 (25%–28%), 61 million at level 3 (30%–33%), and 34 to 40 million adults (18%–21%) operating at levels 4 and 5. A number of national and state organizations

have identified level 3 as the minimum proficiency for success in today's labor market; however, almost half of all American adults have not reached this level. What becomes clear when reviewing various studies of adult literacy is that many Americans fail to reach the level considered necessary for work. One study concluded that "it is now widely assumed and accepted that 90–100 million adults in the United States do not possess the literary abilities to function effectively in society" [7].

Another study concluded that there is: "a disturbing inability among young adults, when working on complex tasks, to use information effectively above a literal, concrete level...Many have great difficulty synthesizing the main argument from a newspaper article, computing the cost of a meal in a restaurant, or determining correct change from a stated amount. Only about 40% of white students, 10% of black students and 20% of Hispanic students were found to be successful at these activities" [30].

In, the U.S. Department of Education gave the National Assessment of Adult Literacy (NAAL) test to 19,200 Americans ages 16 and above. The test booklets consisted of a series of open-ended questions, each preceding a text passage. The test was scored on a 0–500 scale, with four distinct levels of literacy: Below Basic-0–209; Basic-210–264; Intermediate-265–339; Proficient-340–500. Below Basic "indicates no more than the most simple and concrete literacy skills"; Basic "indicates skills necessary to perform simple and everyday literacy activities"; Intermediate "indicates skills necessary to perform moderately challenging literacy activities...understanding moderately dense, less commonplace prose texts as well as summarizing, making simple inferences, determining cause and effect, and recognizing the author's purpose"; Proficient "indicates skills necessary to perform more complex and challenging literacy activities" and the ability to read "lengthy, complex, abstract prose texts as well as synthesizing information and making complex inferences". The report suggests that the Proficient level allows, for example, the reader to compare competing viewpoints in two different newspaper editorials, to understand metaphors in poems and to "infer the purpose of an event described in a magazine article." The data show that the prose literacy level for Americans above the age of 16 were: Below Basic-14%; Basic-29%; Intermediate-44%; Proficient-13%. This means that in 2003 43% of test takers placed at or below the Basic level, with a third of that group in the Below Basic category. This represents 96 million American adults, with 30 million at Below Basic [7]. While these results appear somewhat bleak, a report in 2011, *Progress in International Reading Literacy*, produced by the International Association for the Evaluation of Educational Achievement, looked at reading achievement at the 4th grade level in 53 different education systems, 52 countries and the state of Florida. The United States was among the top 13 education systems. Quite what this means remains somewhat unclear since it could suggest that reading skills among the young in the U.S. are improving, or that things are even more dire in other countries. In light of the data from 2003 which tested a range of literacies, most noticeably that only 13% of the population are "proficient", with the ability to engage relatively complex narratives, a recent study from the Foundation, takes on an unusual significance. A report, published by the Foundation in May 2012 and based on the CapitolWords.org website which features the most popular words and phrases in the Congressional Record since 1996, claims that Congress speaks at about a 10.6 grade level, down from 11.5 in 2005 (these are average figures: the top speaker at a grade level of 16.1 was Dan Lungren of California, the bottom was Tim Griffin of Arkansas at a grade level of 8.13). The report, written by Senior Fellow Lee Drutman, working with software developer Dan Drinkard, and employing the Flesch-Kincaid test which equates higher-grade levels with longer words and sentences, also notes that by comparison the U.S.

Constitution is written at a 17.8 grade level, the Federalist Papers at a 17.1 grade level and the Declaration of Independence at a 15.1 grade level [31].

In light of these diverse data it is surely reasonable to suggest that there is a serious problem of literacy in the United States, the principal focus of this essay. One other measure that we might look at in view of these data, given the presumed cognitive relationship between reading and literacy skills, is the extent to which we are a society that reads. A National Endowment for the Arts survey showed literary reading is in dramatic decline, with fewer than half of American adults now reading literature. The report points to a drop in all groups studied, with the steepest rate of decline (28%) occurring in the youngest age groups, though there was an overall decline of 10% from 1982 to 2002, representing a loss of 20 million potential readers. The rate of decline had nearly tripled in the previous decade [32].

In 2007 The National Endowment for the Arts produced a new report which brought together a huge amount of data about reading in America, “To Read or Not to Read: A Question of National Consequence” [33]. In his introduction, Dana Gioia, the Chairman of the National Endowment for the Arts writes: “To our knowledge, To Read or Not To Read is the most complete and up-to-date report of the nation’s reading trends and—perhaps most important—their considerable consequences.” He continues: “When one assembles data from disparate sources, the results often present contradictions. This is not the case with To Read or Not To Read. Here the results are startling in their consistency. All of the data combine to tell the same story about American reading. The story the data tell is simple, consistent and alarming. Although there has been measurable progress in recent years in reading ability at the elementary school level, all progress appears to halt as children enter their teenage years. There is a general decline in reading among teenage and adult Americans. Most alarming, both reading ability and the habit of regular reading have greatly declined among college graduates. These negative trends have more than literary importance. As this report makes clear, the declines have demonstrable social, economic, cultural and civic implications...As Americans, especially younger Americans, read less, they read less well. Because they read less well, they have lower levels of academic achievement” ([33], p. 5). He notes how the data in the Report point to the multiple ways in which reading or not reading can impact the individual and the society writ large in multiple ways, some good, many bad. He ends: “The nation needs to focus more attention and resources on an activity both fundamental and irreplaceable for democracy.”

The full report is available at the Endowment’s website. One can, however, pull out some of the highlights of the findings—lowlights might be a more appropriate term:

- “Americans are spending less time reading; reading comprehension skills are eroding; these declines have serious civic, social, cultural, and economic implications.”
- “Nearly half of all Americans ages 18- to 24 read no books for pleasure.” This is a particularly important point since there is a good deal of research evidence to suggest that it is reading that one does just for the pleasure of it, that is reading that is not required by work or school, that has a major impact on reading and literacy skills.
- “Less than one third of 13 year olds are daily readers.”
- “The percentage of 17 year olds who read nothing at all for pleasure has doubled over a 20 year period.”

- The Report cites a Kaiser Family Foundation 2003 study which showed that children from six months to six years old use screen media, on average, for about 2h a day, compared with reading, or being read to, which occupies roughly 40 min of their average daily time. The study also showed that 50% of the children lived in homes with three or more TV sets, 36% had a TV in their bedroom and 49% had a video game player.
- “Literary reading declined significantly in a period of rising Internet use.”
- Of 7th–12th graders, 58% use other media while reading “most or some of the time”. The report comments: “...given what we know about reading as a sustained act of participation with a text, an act requiring great resources of memory, imagination and intent...it seems unlikely that multiple diversions during the reading process itself can do anything but dilute the reader’s experience and enjoyment of a literary work.” We now know from neuroscience how not paying close attention to a particular reading task can impair intellectual development. Norman Doidge in his 2007 book, *The Brain That Changes Itself*, cites research that showed “that paying close attention is essential to long-term plastic change”. This latter phrase, which derives from the science of neuro-plasticity, essentially is referencing neurological and cognitive development. He continues: “We often praise ‘the ability to multitask’. While you can learn when you divide your attention, divided attention doesn’t lead to abiding change in your brain maps.” ([24], p. 68).
- “From 1992 to 2005 the average score declined for the bottom 90% of readers.”
- Only 13% of adults read at a Proficient level—and recall that a Proficient level is required if the individual is to be capable of being able to engage narrative complexity.
- Between 1992 and 2003, “Even among college graduates, reading proficiency has declined at a 20%–23% rate, and of those with a Bachelor’s degree only 31% read at a proficient level, and of those with a graduate degree only 41% read at a proficient level.”
- Only 5% of high school graduates are Proficient readers.

The Report does not particularly engage the question of the rise of the Internet, other than to suggest that it is a useful way for young people to *avoid* newspapers, with 65% of teens and 48% of young adults saying that in using the Internet they “just happen to come across” news—that is, they were not actively seeking news out. The fact that there is no particular attention in the NEA report paid to how the Internet locates itself in people’s lives, particularly young people, may have something to do with the fact that much of the data collection was taking place in the years mainly between 2000 and 2004. More recent data shows a staggering increase in on-line use. One survey for example of the on-line activities of American college students found the following: 14% spend eight hours a day online; 19% spend six-eight hours; 52% spend two-six hours on-line; 11% spend one to two hours and less than 1% spend less than one hour a day on-line [34]. Another study by the market research firm, Mintel, found that “at 94h per week—or equivalent to more than two full-time jobs—25–34 year olds consume the most media” [35]. Then there is the rise of Twitter, which reduces language to 144 characters. Founded in 2007, by 2012 it had 200 million users, 15–30 million active users, with 140 million tweets a day, and was worth an estimated \$7 billion. We must also allow for the rise of what has become known as Web 2.0, which is ever more visual rather than text based. For example, Pinterest, which is almost totally visual, between May 2011 and May 2012 experienced a 4377%

growth in the count of its unique visitors and clicks from search engines, and was driving more traffic to retailers than LinkedIn, YouTube and Google, Tumblr, a blogging platform with multimedia capabilities that “lends itself to images and less to 1000 word missives” has become the world’s largest blogging platform, hosting 20 billion blog posts and 120 million users [36].

What the actual implications are of this for our cognitive abilities is still, in considerable part, not yet clear. That the impacts might be significant seems, however, highly likely given the extraordinary adaptive capacity of the plastic brain. There is, however, little doubt that given the continuing, indeed exponential developments in imaging technologies that can, and will, peer deep into the human brain, the most complex structure in the known universe, our understanding of how it works, in relation to things such as language development, literacy and reading, will be enormously enhanced.

Another way to think of this is to suggest that the answer to the question of why relatively poor levels of literacy and reading ability matters lies in the assumptions discussed in the earlier parts of this essay. If a society is to function in its various institutions it needs a literate population. As also mentioned the particular concern here is not so much with the material and professional benefits that flow but how the culture and its values and philosophical systems do, or do not, flourish. The premise is that if they are to flourish then they also require a meaningfully literate, cognitively evolved public. The various data cited above cast, one might suggest, a certain cloud over such expectations.

If we take these data about levels of literacy and reading, and map them onto Hoggart’s three levels of literacy it seems clear that a relatively small population would come close to matching his category of critical literacy, and even fewer that of cultivated literacy. Perhaps, however, the most serious issue that presents is that about a third of the public would barely satisfy his criteria for basic literacy. One might also argue that if the data on reading in the 2007 NEA survey are anywhere close to accurate and if, as researchers such as Keith Stanovich argue, reading is an absolutely key part of the process of becoming literate, it is difficult not to be gloomy. One might also add here that the fundamental problem of reading, and certainly of reading well—what Maryanne Wolf has called “deep reading”—is that it may reflect something far more profound than just getting classroom practice correct. Even there, though, one has to consider the classroom experience. Marilyn Adams has pointed out that the “literacy levels of our secondary students is languishing because the kids are not reading what they need to be reading.” This, she suggests, is linked to the fact that research on the language/vocabulary used in textbooks between the years 1919 and 1991 “indicated that the difficulty of the text in these books has been significantly reduced...” ([37], p. 5).

There are, certainly, implications for reading and literacy in the neurological organization of the brain. In fact, the depth of this problem of levels of reading, of a turn to the visual and simple narratives, and away from the non-visual and complex narratives, becomes very clear when one looks to the literature out of neuroscience. The psycho-biologist Michael Gazzaniga, who is a professor of psychology at the University of California at Berkeley and head of its SAGE Center for the Study of the Mind, makes the point in a very blunt, but telling, manner: “Brains were not built to read. Reading is a recent invention of human culture. That is why many people have trouble with the process and why modern brain imaging studies show that the brain areas involved with reading move around a bit. Our brains have no place dedicated to this new invention.” ([38], p. 6). In her book, *Proust and the Squid*, Maryanne Wolf argues that reading is not a natural act. Mark Changizi, Director of Human Cognition at 2AI Labs adds that a Martian studying humans “might be excused for concluding that we

had evolved to read. But, of course, we have not. Reading and writing is a recent human invention, going back only several thousand years, and much more recently for many parts of the world. We are reading using the eyes and brains of our illiterate ancestors” [39]. One way of thinking about this is to consider what is taken to be a serious problem that some people have with reading, dyslexia. Wolf notes: “British neuropsychologist Andrew Ellis declared that whatever dyslexia turns out to be, ‘it is not a reading disorder’. Ellis was referring to the fact that in terms of human evolution the brain was never meant to read; as we have seen, there are neither genes nor biological structures specific only to reading. Instead, in order to read each brain must learn to make new circuits by connecting older regions originally designed and genetically programmed for other things, such as recognizing objects and retrieving their names. Dyslexia cannot be anything so simple as a flaw in the brain’s ‘reading center’, for no such thing exists.” ([19], p. 168).

These are sentiments that in their various ways, if expressed differently, run through the reading studies literature. In their essay, *Learning to Read: an Unnatural Act*, Philip Gough and Michael Hillinger, describe the capabilities of a six year old about to go to elementary school. While the body remains small, the head is nearly 95% of what it will be as a fully grown adult; sight is as good as an adult and the hearing nearly so; the average six-year old can recognize a dozen vowels and nearly thirty consonants of English; and has a fairly extensive spoken vocabulary, “...his mastery of English would be the envy of any college graduate learning English as a secondary language. Yet for all his cognitive and linguistic talents, the child has one peculiar linguistic shortcoming: he cannot read a word...” [40]. Christopher Cross, the former President of the now defunct Council for Basic Education, wrote: “Extensive research supports instruction that relies upon teaching phonemic awareness, alphabetic decoding, word recognition, spelling, and reading comprehension. And that research clearly indicates that reading is not a natural process, like speaking, but a very complex one that needs to be carefully and systematically taught” ([41], p. 6). Keith Stanovich writes: “Despite some disagreement, researchers are increasingly uncovering support for Gough and Hillinger’s (1980) provocative characterization of reading as an ‘unnatural act’...Although it is popular for authors to cite examples of children who have acquired reading on their own—or, more often, have been able to identify some boxtop labels via paired-associate learning or guessing from context...for the vast majority of children the initial stages of reading must be traversed with the aid of some type of guided instruction from a teacher (who in the case of early readers may well be a parent). Thus, because instruction must mediate the initial stages of reading acquisition, it could well interact with the child’s initial level of cognitive skill to cause Mathew effects.” ([16], p. 203). In lay terms, what Stanovich is suggesting is that unless a child receives appropriate and effective instruction in reading at an early age then the consequent cognitive impairment will be amplified. One might add, finally, that the issues addressed here, most noticeably the increasingly problematic nature of the act of reading, will likely deepen in a digital age dominated by the visual and not the text, an age which while obviously not consciously antipathetic to reading skills, may in practice actually be so.

The point is that, while accepting the profound importance of language abilities, we tend as a matter of common sense to think of reading as natural, when in fact it is not and has to be taught and guided, we have to work at it—or as Alexander Pope put it, “True ease in writing comes from art, not chance/As those move easiest who have learned to dance.”

5. Conclusions

This essay began with the moving account by Doris Lessing of a young African woman reading a fragment of Tolstoy and it would seem finding some succor and meaning in the act, signaling that whatever the deprivations of her life, its grinding poverty, its potential sense of hopelessness, she, through this very singular act, would not be ground down. In August 2011, many thousands of miles away an event occurred which in its own way was also revealing of a mood, a very different mood. Thousands of people took to the streets of many parts of London and a number of other major English cities. Whether they were rioting or protesting others can debate. What cannot be denied or ignored is that there was much violence, injury, looting, what Milton called “Demonic frenzy, moping melancholy/And moonstruck madness”.

One incident gathered much attention in the media and among the commentariat. In south London, on Clapham Junction’s high street, an enormous amount of looting took place. A store that sold party accessories and donated part of its yearly profit to worldwide children’s charities was set ablaze and gutted. Stores that sold flat screen televisions, iPods, clothes, mobile phones, hair products, sporting products were all stripped bare. There was, however, one exception, one store that remained untouched, Waterstones, a book shop. Clearly it contained nothing worthy of the looter’s attention. One wag in the press suggested that had they stolen books, they might have learned something—perhaps failing to see that such was way too late for these people. Another suggested that actually if the idea was to steal goods with a view to selling them on then from a cost-benefit analysis standpoint the rational thing to do was to steal a flat screen television rather than volumes of books lining the shelves of the bookstore because of their bulk and lack of street value. Another way to think of it might be that we have produced within the culture of late modernity a hyper-consumerism in which we are what we own—remember Lessing’s comment about how we are “stifling in our superfluities”—that we live on the surface by possessing “things”. From this perspective, one might suggest, material goods, having a flat screen television or an iPod or the latest Air Jordans is a kind of anesthetic to ease the barely understood existential pain of an inner-deadness and all embracing emptiness. Does anyone not imagine that the life circumstances of that young woman in Africa are massively more impoverished than those young men—it was mainly men—who were helping themselves to the goods behind the shattered glass. And yet is it not equally possible that she grasped something that their life experience did not allow them to understand, to feel. She may not recognize the name but she perhaps intuitively understood a comment by John Updike: “When you read a great book, you don’t escape from life, you plunge deeper into it...what you are essentially doing is furthering your understanding of life’s subtleties, paradoxes, joys, pains and truths... And for this serious task of imaginative discovery and self-discovery there is and remains one perfect symbol: the printed book.”

Conflicts of Interest

The author declares no conflict of interest.

References

1. Charles Russell. “Leave it to the teachers.” *London Review of Books* 19 (2003): 18–22.

2. David R. Olson. "The cognitive consequences of literacy." *Canadian Psychology* 27 (1986): 109–21.
3. Ernst Gellner. *Plough, Sword and Book: The Structure of Human History*. Chicago: University of Chicago Press, 1988.
4. Anne Marie Barry. "Perception Theory." In *Handbook of Visual Communication: Theory, Methods, and Media*. Edited by Kenneth Smith, Sandra Moriarty, Gretchen Barbatsis and Keith Kenney. Mahwah: L. Erlbaum, 2005.
5. Richard Hoggart. *Between Two Worlds*. London: Transaction Publishers, 2002.
6. Richard Hoggart. *Everyday Language and Everyday Life*. London: Transaction Publishers, 2003.
7. National Center for Education Statistics. *Literacy in Everyday Life: Results from the 2003 National Assessment of Adult Literacy*. Washington: NCES, 2007.
8. Neil Postman. *Amusing Ourselves to Death: Public Discourse in the Age of Show Business*. New York: Viking Penguin, 1985.
9. Neil Postman. *Technopoly: The Surrender of Culture to Technology*. New York: Random House, 1992.
10. Julian Barnes. "My Life as a Bibliophile." *The Guardian*, 29 June 2012.
11. David McCullough. *Talk at Library of Congress' National Book Festival*. Washington: Library of Congress, 2002.
12. Noble E. Cunningham. *Pursuit of Reason: The Life of Thomas Jefferson*. New York: Ballantine Books, 1988.
13. Philip Kurland, and Rolf Lerner. *The Founder's Constitution*. Chicago: University of Chicago Press, 1987, vol. 5.
14. Jack Goody. *The Domestication of the Savage Mind*. New York: Cambridge University Press, 1977.
15. Walter J. Ong. *Orality and Literacy*. London: Methuen, 1982.
16. Keith E. Stanovich. *Progress in Understanding Reading: Scientific Foundations and New Frontiers*. New York: Guilford Press, 2000.
17. Betty Hart, and Todd Risley. *Meaningful Differences in the Everyday Experience of Young American Children*. Baltimore: Paul H. Brookes Publishing, 1995.
18. William E. Nagy, and Richard C. Anderson. "How Many Words Are There In Printed School English?" *Reading Research Quarterly* 19 (1984): 304–30.
19. Maryanne Wolf. *Proust and the Squid: The Story and Science of the Reading Brain*. New York: Harper Collins, 2007.
20. Richard C. Anderson, Paul T. Wilson, and Linda G. Fielding. "Growth in reading and how children spend their time out of school." *Reading Research Quarterly* 23 (1988): 285–303.
21. Donald P. Hayes, and Margaret G. Ahrens. "Vocabulary simplification for children: A special case of 'motherese'?" *Journal of Child Language* 15 (1988): 395–410.
22. Lawrence Baines. "From page to screen: When a novel is interpreted for film, what gets lost in the translation?" *Journal of Adolescent and Adult Literacy* 39 (1996): 612–22.
23. Donald Hebb. *The Organization of Behavior: a Neuropsychological Theory*. New York: John Wiley and Sons, 1949.
24. Norman Doidge. *The Brain That Changes Itself*. New York: Penguin Books, 2007.

25. Manzoor Ahmed. "Defining and measuring literacy: Facing the reality." *International Review of Education* 57 (2011): 179–95.
26. David Cressy. *Literacy and the Social Order: Reading and Writing in Tudor and Stuart England*. Cambridge: Cambridge University Press, 1980.
27. Organization for Economic Cooperation and Development (OECD). *Literacy in the Information Age- Final Report of the International Literacy Survey*. Paris: Organization for Economic Cooperation and Development, 2000.
28. National Center for Education Statistics. *Adult Literacy in America. A First Look at the Findings of the National Adult Literacy Survey*. Washington: NCES, 2002.
29. Francis E. Kazemek, and Pat Rigg. "Literacy Definitions." In *Literacy in America: An Encyclopedia of History, Theory and Practice*. Edited by Barbara J. Guzzetti. Santa Barbara: ABC-CLIO, 2002.
30. Edward E. Gordon, and Elaine H. Gordon. *Literacy in America: Historic Journey and contemporary Solutions*. Westport: Praeger, 2003.
31. Sunlight Foundation. *Is Congress Getting Dumber, Or Just More Plain Spoken?* Washington: Sunlight Foundation, 2012.
32. National Endowment for the Arts (NEA). *Reading at Risk: A Survey of Literary Reading in America*. Washington: National Endowment for the Arts, 2004.
33. National Endowment for the Arts (NEA). *To Read or Not To Read: A Question of National Consequence*. Washington: National Endowment for the Arts, 2007.
34. MTVu, and the Jed Foundation. *2010 Technology and Mental Health Poll*. New York: The Jed Foundation, 2010.
35. Mintel. *Social Networking—US*. Chicago: Mintel Group Ltd., 2010.
36. Olga Kharitonova. "Pinterest and Visual Cognition." Master Thesis, Department of Journalism and Mass Communication, University of Colorado at boulder, Boulder, CO, USA, 2013.
37. Marilyn J. Adams. "Advancing Our Students' Language and Literacy." *American Educator* (2010–2011): 3–11.
38. Michael Gazzaniga. *The Mind's Past*. Berkeley: University of California Press, 1998.
39. Mark Changizi, blog. Available online: <https://changizi.wordpress.com/> (accessed on 29 September 2009).
40. Philip B. Gough, and Michael L. Hillinger. "Learning to Read: An Unnatural Act." *Bulletin of the Orton Society* 30 (1980): 179–95.
41. Christopher Cross. "Introduction." In *The Keys to Literacy*. Edited by Susannah Patton and Madelyn Holmes. Washington: Council for Basic Education, 1998.